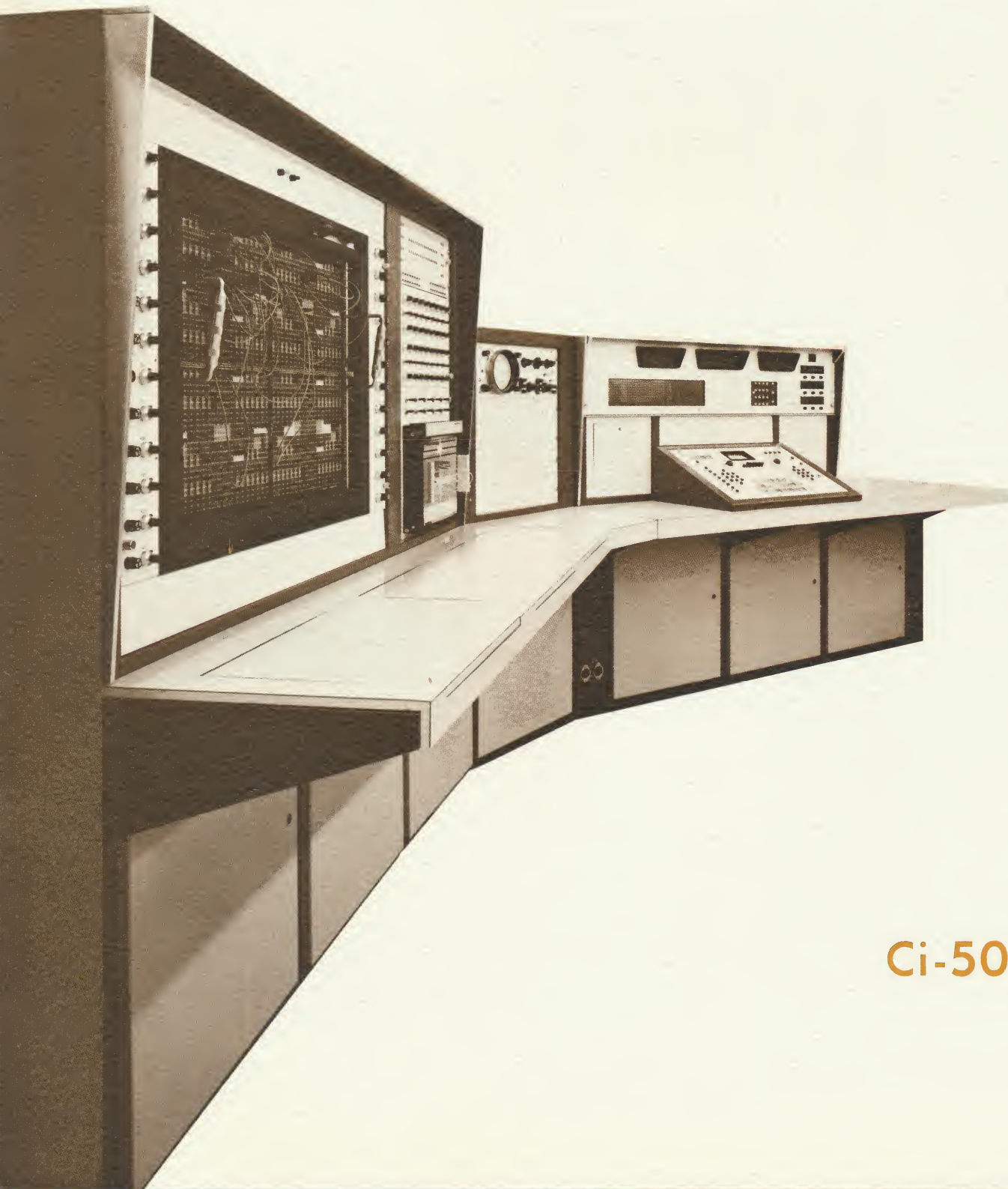


ANALOG --- HYBRID



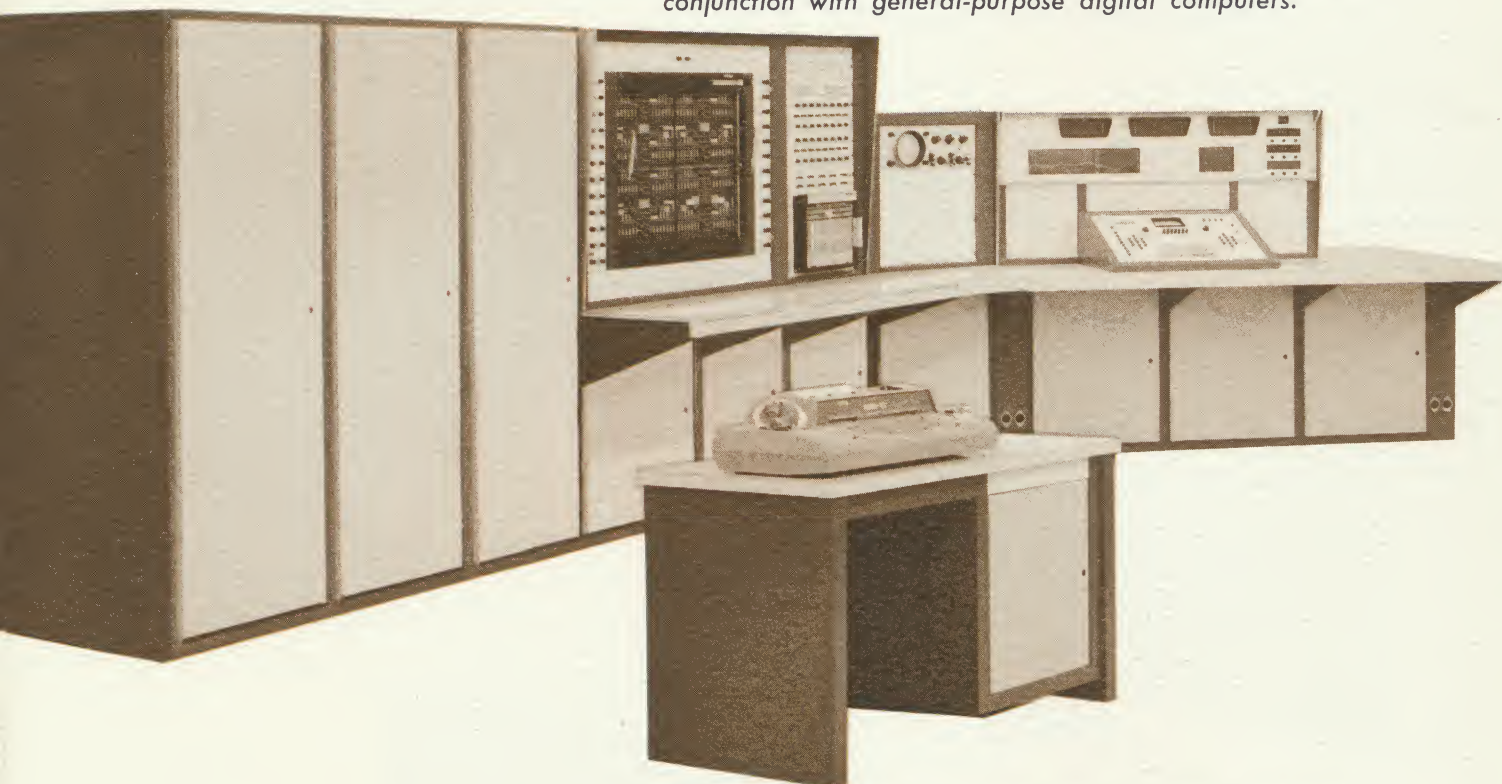
Ci-5000

Ci-5000 ANALOG/HYBRID

COMCOR, leading producer of 100-volt, SOLID STATE analog/hybrid computer systems and components, now offers the field-proven Ci-5000.

The completely transistorized Ci-5000 Analog/Hybrid Computer solves sophisticated problems arising from technical evolution. The user is provided with unequalled accuracy, flexibility and reliability for analog or hybrid computation.

Operating controls and indicators are located on the control console. "Feather touch" control and address pushbutton switches activate the high-speed digital logic circuits that provide control signals. This digital control arrangement eliminates expensive interface systems when operating in conjunction with general-purpose digital computers.



A four-digit, in-line projection display, located on the left-hand side of the readout panel, displays the selected address. As each address digit is entered from the address keyboard, a "green field" is advanced across the address display. This green field indicates the position of the next digit to be entered.

When a nonexistent component is addressed, the SOLID STATE scan matrix automatically advances the system, at a 1000-cps rate, to the next legitimate address.

An overload indicator matrix on the readout panel provides visual indication of overload of any of the 416 amplifiers.

The four-digit in-line display at the right of the digital voltmeter displays the voltage selected on the reference divider keyboard. The reference divider is used when servo setting coefficient potentiometers and when setting Servo Set Diode Function Generator slope values. A binary-coded decimal divider is set up from the same keyboard and is used for setting Diode Function Generator breakpoint values.

Potentiometers and Diode Function Generators can be set from the keyboard, electric typewriter, digital computer or paper tape. A manual pot adjust is also provided.

FEATURES

Completely Transistorized — SOLID STATE circuitry is used throughout the Ci-5000 for maximum performance, excellent reliability and high packaging density.

SOLID STATE Address, Readout and Control Logic—Replaces obsolete stepper switch and crosbar systems with high-speed digital logic matrix cards. Allows control of the Ci-5000 from digital computers without superfluous interface equipment.

Automatic Coefficient and Function Generators Capability — COMCOR's unique "single motor per pot" design eliminates troublesome adjustments and provides the user with the analog/hybrid industry's most reliable servo set system.

Modular Patchboard Layout — For ease of programming and maximum utilization of cords and plugs.

3600-Hole Shielded Signal Patchboard — Fully insulated to prevent shorting of patchboard tips to ground.

Patch Panel — Controls integrators, multipliers, function generators, comparators and digital logic elements.

Low Heat Dissipation — 5 watts per amplifier.

SOLID STATE Amplifiers — The industry's only field-proven ± 100 -volt transistorized DC operational amplifier featuring 50ma output current capability.

Individual Integrator Mode Control—Individual SOLID STATE switches provide control of hold, reset and compute modes of operation. Allows maximum flexibility for iterative applications.

Three Digital Clocks Available — Each identical clock has three thumbwheel switches (reset, hold, compute) which may be set from 1.0 milliseconds to 999 milliseconds in steps of 100 microseconds. (.1 millisecond to 99.9 milliseconds also available.)

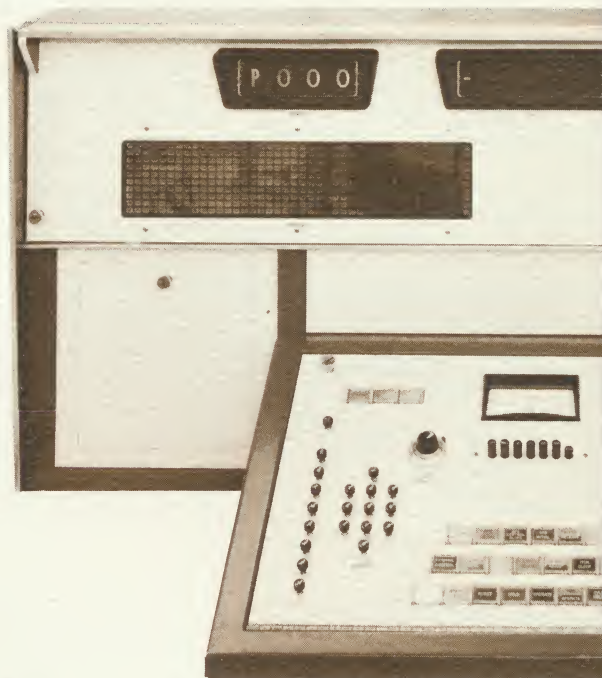
Cycle Counter — A thumbwheel switch may be preset from 1 to 999 cycles in order that the number of iterations in high speed repetitive operation may be preselected.

Time Scale Changes—Time scales of 1:1, 10:1, 100:1, 1000:1 are available for each integrator, allowing maximum flexibility for iterative computation.

Low-Speed Scan Mode — For visual scan of problem parameters. Adjustable scan rate from one to ten seconds per reading. Parameter address and value are displayed on the computer control panel indicators.

High-Speed Scan Mode—Permits recording of problem parameter address and value on an electric typewriter, digital printer, paper tape punch, magnetic tape or directly to a digital computer through analog to digital converters.

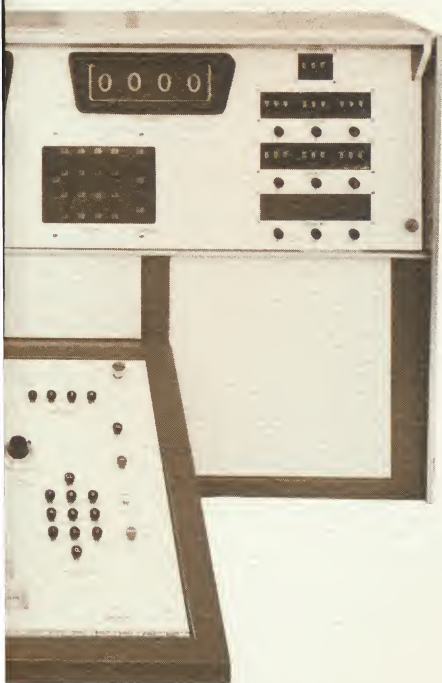
Expansion Capability — The Ci-5000 may be expanded to a total of 416 SOLID STATE DC operational amplifiers.



For the sophisticated programmer, the Ci-5000 control is at your fingertips.

To solve the more complex problems, the Ci-5000 may be expanded to include a wide variety of computing components. (List of components available.)

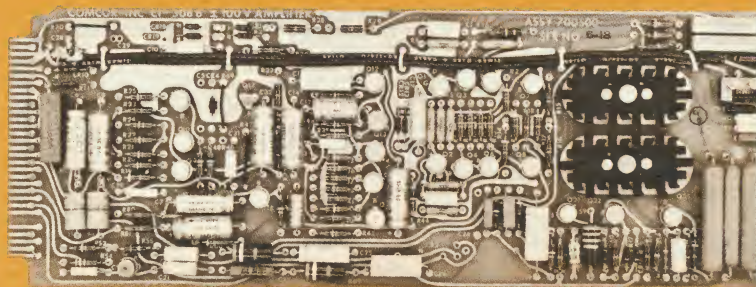
8	Inverters.
296	Inverters (assorted).
24	Hand Set 3 te
200	Servo Set Pot
8	Function Swit
2	Function Swit
32	Servo Set Dio
40	Quarter Squa
16	Feedback Lim
6	Electronic Res
200	Trunks.
13	Interpanel Tru
16	Comparators
16	Comparators
8	D to A Switch
2	Universal Noi
3	Eight Channe
1	Ten Channel
6	(X-Y) Plotters.
1	Oscilloscope.



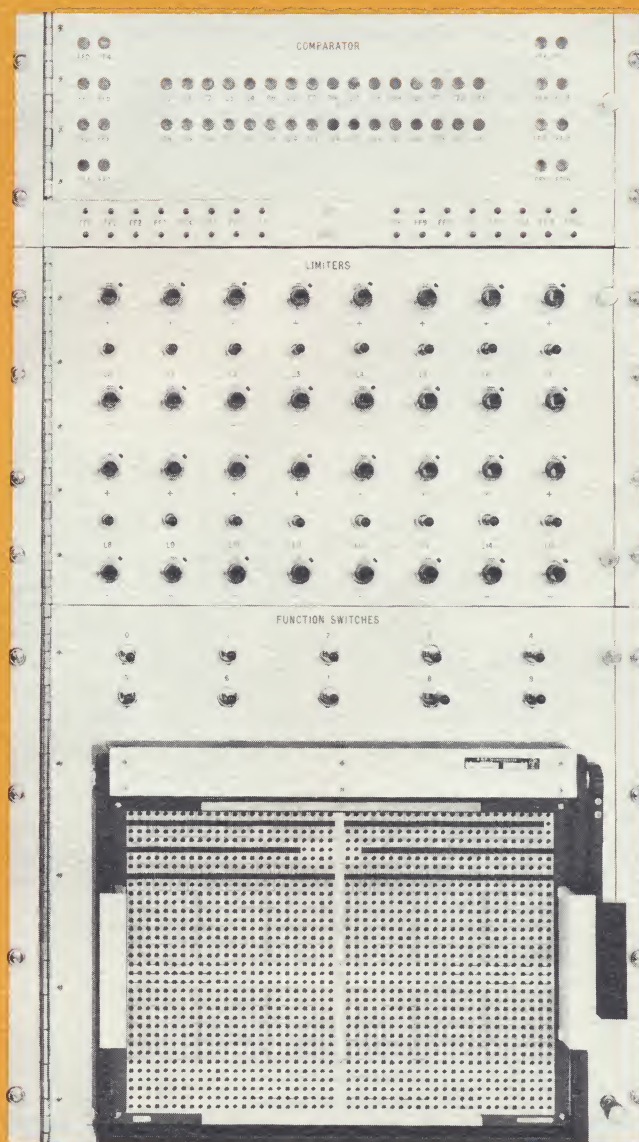
panel places "feather touch" control at

problems, the standard Ci-5000 include the following quantities of (Other configurations are also

associated with nonlinear equipment).
 Terminal Potentiometers.
 Potentiometers.
 Analog Signals.
 Logic Level.
 Function Generators.
 Multipliers.
 ers.
 lvers.
 ks.
 Analog-Relay).
 Analog-Digital).
 s.
 linear Elements.
 Recorders.
 Repetitive Operation Display Unit.



Ci-308B 100 Volt Operational SOLID STATE Amplifier



Logic patch panel and associated panel for control of integrators, multipliers, function generators, comparators and digital logic elements.



Ci-5000 Analog/Hybrid "FIELD PROVEN" SOLID STATE components.

Ci-308B 100 volt DC operational amplifier.

The field proven Model Ci-308B is designed specifically for control applications, and high-speed analog and hybrid computers. Output current capability is 50ma at ± 100 volts DC. MTBF (component failure) is 157,000 hours. The Ci-308B employs SOLID STATE (FET) chopper stabilization and exhibits high gain (10^5), low noise (3mv P-P) and low drift (50 micro volts/day).

Ci-225 Servo Set Diode Function Generator.

The COMCOR Model Ci-225 Servo Set Diode Function Generator features DFG setup from punched paper tape, enabling analog and hybrid users to set up nonlinear functions in one-tenth the time required by hand-set modules. The functions may be stored on paper tape to facilitate efficient, fast resetting when required.

Ci-275 Quarter Square Multiplier.

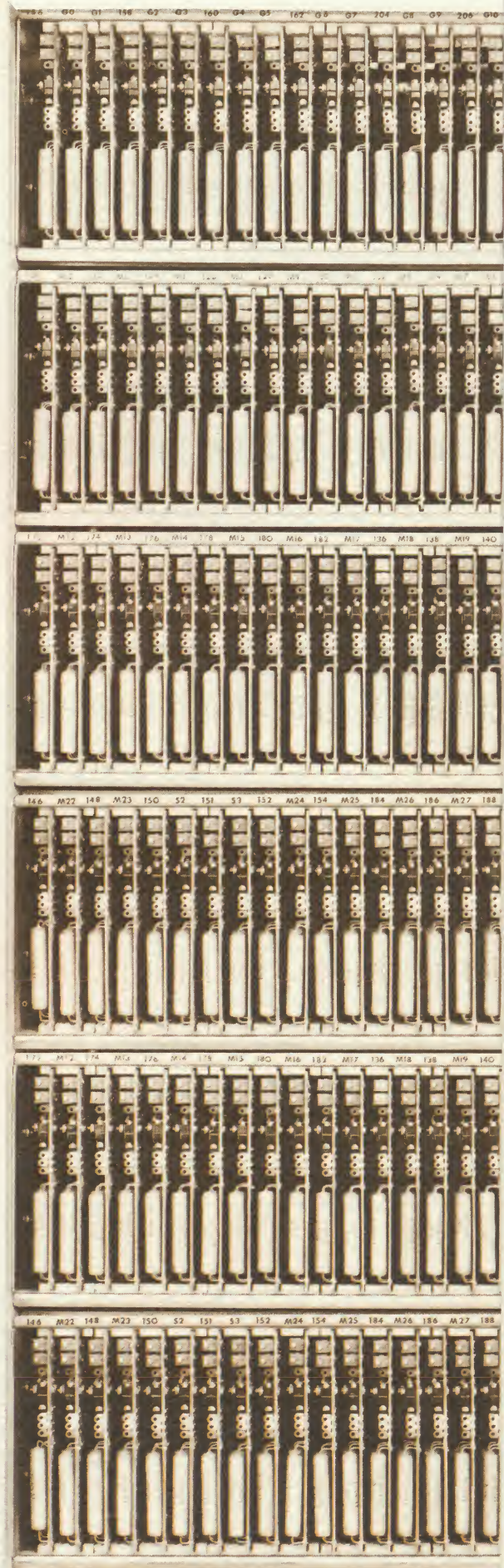
With the introduction of the Ci-275 Quarter Square Multiplier, COMCOR offers the analog and hybrid user accuracy, reliability and performance beyond the capability of any other multiplier in the industry. The Ci-275 is an all SOLID STATE, oven-mounted unit which consists of two Ci-276 printed circuit cards. Each card contains a plus and minus squaring function to provide four-quadrant multiplication. Each squaring function is approximated by thirty straight-line segments.

Ci-265 Electronic Resolver.

COMCOR, the leader in SOLID STATE design, has developed the first High-Precision Electronic Resolver, the Model Ci-265. This completely solid state unit exhibits great accuracy, extremely good frequency response, high reliability, low power and cooling requirements and high packaging density.

The design is efficient(uses only 10 amplifiers) and at the same time yields accurate results, even at points where the output function approaches zero.

Forward, inverse and continuous modes of resolutions are all possible with the standard Ci-265.





Spacious COMCOR facilities in Anaheim, California. The new plant houses administration, marketing, engineering and production operations.

Ci-95 Automatic Interrogation and Data Entry System

To increase the effective utilization of the Ci-5000 in large general purpose analog and hybrid facilities, the COMCOR AIDE SYSTEM, Model Ci-95, was developed.

AIDE SYSTEM permits the operator to rapidly select and set potentiometers and Servo Set Diode Function Generators and central modes of operation, from either the typewriter or a prepunched paper tape. The typewriter is used to command the paper tape punch and will also provide the operator with a printed copy of the information punched on paper tape.

The input/output features of the AIDE make it possible to obtain a complete analog solution from a prepunched paper tape. Upon command from the tape input system, the typewriter will print out address and EDVM reading of any addressable point in the computer system.

Readout features may also be initiated from the computer console as well as the AIDE.



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